REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-9 were pending in the present application. Claims 2 and 7 have been cancelled by way of this reply. Thus, claims 1, 3-6, and 8-9 are now pending in the present application. Claims 1, 5, and 6 are independent. The remaining claims depend, directly or indirectly, from claims 1 and 6.

Claim Amendments

Independent claim 1 has been amended to incorporate limitations of cancelled claim 2, and claim 6 has been amended to incorporate limitations of cancelled claim 7. No new matter has been added by these amendments.

Objections to the Drawings

The drawings were objected to for failing to show every feature of the invention specified in the claims. Specifically, the Examiner asserts that "jump signal applying means, timing setting means, level determining means, and level varying means" as recited in the claims are not shown.

Paragraph [0069] in the published Specification discloses that "servo processor 31 applies an acceleration pulse PL1 in FIG. 5 as a focus jump braking signal to focus drive signal FD, so that the servo system starts moving optical pickup 1 (S4)." The servo processor 31 is clearly shown in Figures 1 and 2. In view of the above, Applicant respectfully submits that

"jump signal applying means" as recited in the claims is at least shown in Figures 1 and 2 as servo processor 31, according to at least one embodiment of the claimed invention.

Paragraph [0067] in the published Specification discloses that "CPU 41 determines whether the focus jump of last time to recording layer 102 has finished within deceleration commence time-out period TT or not." CPU 41 is clearly shown in Figure 2. In view of the above, Applicant respectfully submits that "level determining means" as recited in the claims is at least shown in Figure 2 as CPU 41 associated functionally with timer 43, according to at least one embodiment of the claimed invention.

Paragraph [0068] in the published Specification discloses that "CPU 41 reads out specification level LV corresponding to flag FL1 (="1") indicative of the focus jump from recording layer 104 to recording layer 102 from table TB 1 and sets specification level LV as deceleration commence level DCL, thereby changing deceleration commence level DCL (S3)." CPU 41 is clearly shown in Figure 2. In view of the above, Applicant respectfully submits that "level varying means" as recited in the claims is at least shown in Figure 2 as CPU 41 associated functionally with memory 44, according to at least one embodiment of the claimed invention.

Paragraph [0031] in the published Specification discloses that "preferably, the timing setting part includes a level determining part and a level varying part." Thus, the timing setting means is also shown by CPU 41 in Figure 2.

Accordingly, withdrawal of this objection is respectfully requested.

Objections to the Title

The Examiner has indicated that the title is not descriptive. The Applicant has amended the title to clearly indicate the invention to which the claims are directed. Accordingly, withdrawal of this objection is respectfully requested.

Rejections under 35 U.S.C. § 112

Claims 1-9 were rejected under 35 U.S.C. § 112, first paragraph, as not being enabled, and under 35 U.S.C. § 112, second paragraph, as being indefinite.

The Examiner asserts that the brake signal in the claims is not described in the specification. Applicant submits that paragraph [0034] clearly discloses that "the brake signal includes an acceleration pulse signal for starting acceleration regarding the focus jump and a deceleration pulse signal for starting deceleration." In the Specification, acceleration signal PL1 and deceleration signal PL2 are described in sufficient detail to enable one skilled in the art to make and use the claimed invention (*see e.g.*, paragraphs [0069], [0070], [0075], and [0076], and Figure 5 of the published Specification).

The Examiner also asserts that the specification "does not explain what these signals are and how focus jump is related to a drive signal for controlling light emitting means." Paragraph [0011] defines that a "focus jump" is an action " to move the focal point of a laser beam from a state were a laser beam from optical pickup 1 is focused in recording layer 102 (or recording layer 104) to recording layer 104 (or recording layer 102) during reproduction." To carry out a focus jump, in one embodiment of the claimed invention, servo processor 31 applies a brake signal serving as focus drive signal FD to two-function driver 18, and two-function driver 18 drives optical pickup 1 (*see e.g.*, paragraph [0061] of publication of the Specification).

The Examiner asserts that lines 6-10 of claim 1 are confusing and unclear. The claim has been amended to clarify that the jump signal applying means applies a brake signal "at the time of making a focus jump from a recording layer to another recording layer."

With respect to the timing setting means, amended claim 1 recites that the time setting means includes both the level determining means and the level varying means. Figure 4 and paragraphs [0066]-[0076] of the published application describe in sufficient detail how to determine and vary the level.

In view of the above, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C § 102

Claims 1-9 stand rejected under 35 U.S.C § 102(b) as being anticipated by U.S. Patent No. 6,061,310 issued to Iida (hereinafter "Iida"). Claims 1, 5, and 6 have been amended. To the extent that this rejection may still apply to the amended claims, this rejection is respectfully traversed.

The present invention is directed to a method and apparatus for optimizing a focus jump by determining and varying a specification level. Amended claim 1 requires, in part, that *a specification level is lowered* in the case where the level of a focus error signal *does not reach* said specification level. Claim 1 further requires, in part, that a brake signal is applied *at the time when* the level of said focus error signal *reaches* said specification level. Independent claims 5 and 6 recite an optical disk and a focus control method, respectively, that include similar limitations.

As discussed above, a focus jump is an action to move the focal point of a laser beam from the one recording layer to another recording layer in a multilayer optical disk. In one embodiment of the claimed invention, when such a focus jump is carried out, the timing of applying or completing a brake signal (i.e., an acceleration signal or a deceleration signal) may be determined, based on when focus error signal FE reaches a predetermined specification level (e.g., acceleration completion level ACL or deceleration commencement level DCL). However, such specification levels need to be adjusted according to the variation of focus error signal FE because focus error signal FE may not be consistent due to variations in light transmittance and intervals in a multilayer disk (*see e.g.*, Fig. 10 and paragraphs [0019] and [0026] in the published Specification). The above limitations provide a way to adjust a specification level in accordance with the variation of focus error signal FE (*see e.g.*, Figures 4 and 5 in publication of the Specification).

Iida is directed to a method and apparatus for controlling a focus jump. Iida discloses means and steps for detecting the velocity of an objective lens from the waveform of a focusing error signal at a predetermined time and for closing a focusing servo loop at a time in accordance with the velocity of the objective lens.

In Iida, the system controller 10 turns off the brake signal and closes the focusing servo loop earlier than in the normal mode in the case where the velocity of the objective lens moving in a jumping-up direction is lower than a proper value (i.e., the forcibly-closed loop mode is carried out when T>LM1 in Figure 8). In addition, the system controller 10 further applies a brake signal in the case where the velocity of the objective lens is not decelerated sufficiently (i.e., the increased brake signal mode is carried out when T<LM2 in Figure 9).

In the Office Action dated June 27, 2006, the Examiner indicated that the above limitations are disclosed in col. 19, line 49 to col. 21, line 64 and Figs 12-14 of Iida. However, Applicant respectfully submits that Iida fails to disclose that *a specification level is lowered* in the case where the level of a focus error signal *does not reach* said specification level and that a brake signal is applied *at the time when* the level of said focus error signal *reaches* said specification level. The disclosure in Iida which the Examiner indicated merely explains how to perform the forcibly-closed loop mode and the increased brake signal mode as discussed above.

In fact, Iida does not contemplate the case where a focus error signal *does not reach* a predetermined specification level, and thus clearly fails to show or suggest lowering the specification level in such a case. This can be understood more clearly by referring to Figure 7 in Iida. In Figure 7a of Iida, the two broken lines in parallel with the time axis represent threshold levels. The broken line over the time axis corresponds to L3 of Figure 7e and the other broken line under the time axis corresponds to L1 of Figure 7e. In Figure 7a, it is noted that the curves of FE meets either one of the two broken lines and, as a result, FCMP-H (or L) signals are generated. Even if Fig. 8-12 do not show broken lines as in Figure 7, it is clear to one of ordinary skill in the art that Iida does not contemplate the case where a focus error signal does not reach a specification level. Fig. 10 of the present application, which shows the case where focus error signal FE *does not reach* the specification level, and Fig. 5 of the present application, which shows the case where the specification is *lowered*, when compared with the figures of Iida, clearly supports the Applicant's assertion that the above limitations are not shown or suggested by Iida.

In view of the above, Iida clearly fails to show or suggest all the limitations of independent claims 1, 5, and 6. Thus, claims 1, 5, and 6 are patentable over Iida, at least for the

above reasons. Dependent claims are also patentable for at least the same reasons as the claims

from which they depend. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and

places this application in condition for allowance. If this belief is incorrect, or other issues arise,

the Examiner is encouraged to contact the undersigned or his associates at the telephone number

listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591

(Reference Number 04536/019001).

Dated: September 27, 2006   Respectfully submitted,
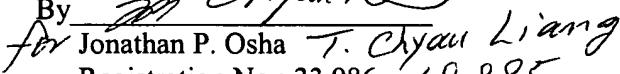
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